

What is claimed is:

1. A method of forming a single crystalline aluminum nitride film, comprising nitriding a single crystalline α -Al₂O₃ substrate to form an aluminum oxynitride layer and an aluminum nitride film on the aluminum oxynitride layer.
2. The method of claim 1, wherein the single crystalline α -Al₂O₃ substrate is nitrided by heating in the presence of carbon, nitrogen and carbon monoxide.
3. A single crystalline aluminum nitride film which is obtainable by the method of claim 1 or 2.